

SWARTHMORE COLLEGE,

1877--78.

TO THE STOCKHOLDERS.

THE ANNUAL MEETING OF THE STOCKHOLDERS is held in Race Street Meeting House, Philadelphia, on the first Third-day in Twelfth month, at three o'clock, P. M. Public notice of this meeting is given in one or more newspapers published, respectively, in Philadelphia, New York, and Baltimore.

It is desirable that Stockholders should be furnished with the Catalogues, and all other publications issued by the authority of the College, as well as notices of the annual meetings.

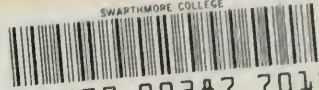
In order that a correct record may be kept, Stockholders are requested to forward to the undersigned, information of any failure to receive this Catalogue, as well as notice of removal, or change in their P. O. address hereafter.

ISAAC H. CLOTHIER,

Clerk of Stockholders' Meeting,

801 MARKET STREET, PHILAD'A.

SWARTHMORE COLLEGE



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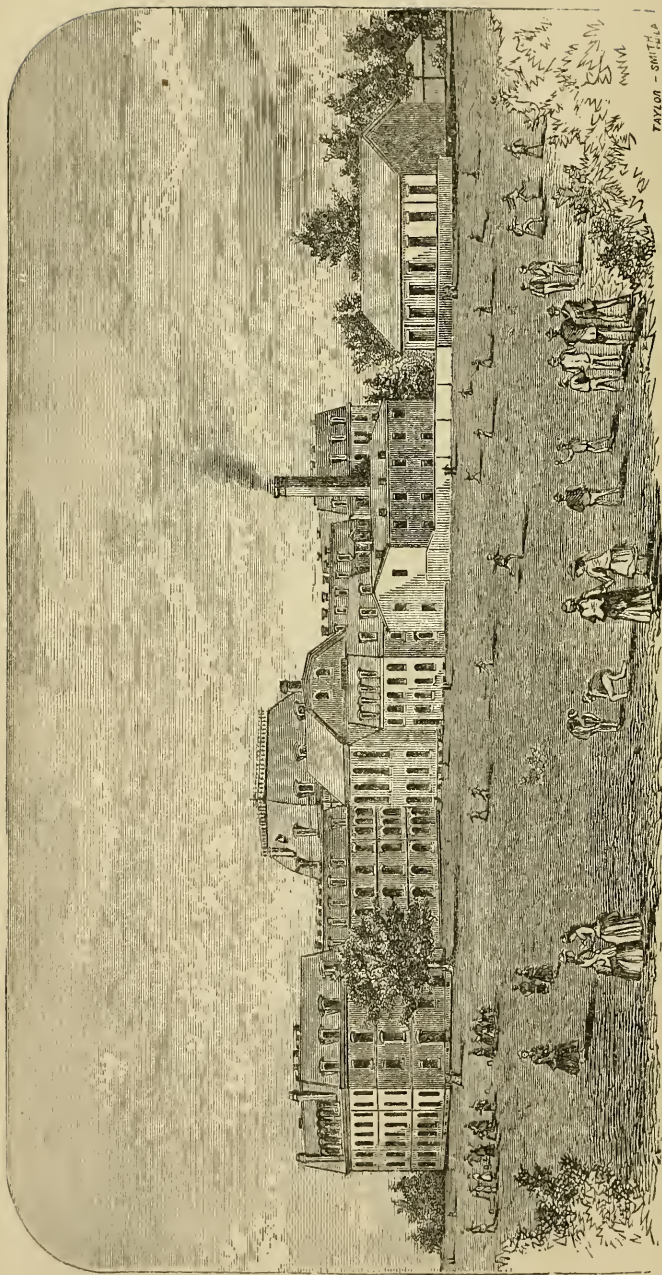
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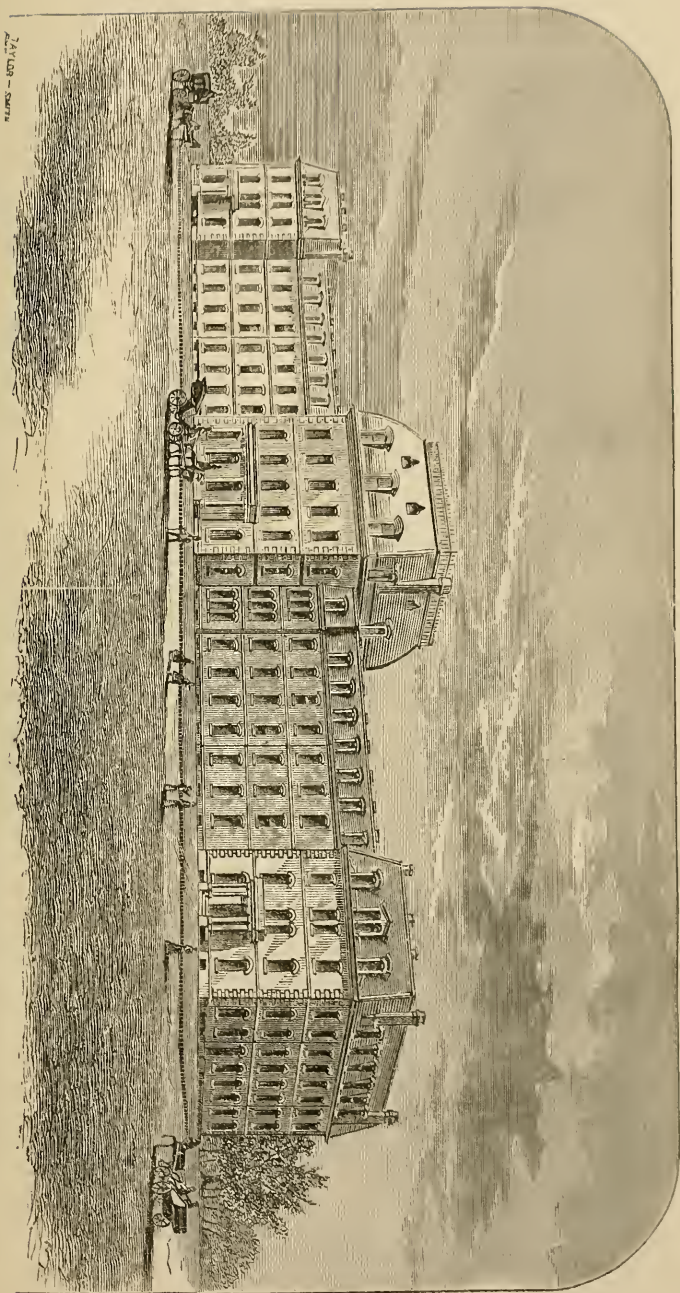
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TAYLOR - SCOTT & CO.

SWARTHMORE COLLEGE, DELAWARE COUNTY, PA.


[REAR VIEW.]



JAYLON - 1873

SWARTHMORE COLLEGE, DELAWARE COUNTY, PA.

[FRONT VIEW.]



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N. B.—Applicants will remove this leaf and forward it, properly filled out, to the President of the College.

FORM OF APPLICATION.

I hereby make application for the admission of my _____ as a Student in Swarthmore College, for a period not terminating before the close of the Current College Year, and I agree not to withdraw _____ during the year except in consequence of sickness or other unavoidable necessity.

I further agree that, if admitted, _____ will comply with all the regulations of the College.

Parent or Guardian.

Applicants please fill carefully the following blanks :

Full Name of Applicant, with age,

Address of Parent or Guardian,

Name of School last attended, with Testimonial,

Course of Study the Student is to follow,

Additional Information,

N I N T H

ANNUAL CATALOGUE

O F

SWARTHMORE COLLEGE,

SWARTHMORE, PA.

1877-78.

WITH MINUTES OF THE

FOURTEENTH ANNUAL MEETING

O F T H E

S T O C K H O L D E R S .



P H I L A D E L P H I A :

FRIENDS' BOOK ASSOCIATION, 706 ARCH STREET.

1877.

CALENDAR.

1877-78.

- | | | | |
|-------|---------------------|--------------|---|
| 1877. | Sixth month 19th, | Third-day, | COMMENCEMENT. |
| " | Sixth month 20th, | Fourth-day, | Summer Vacation begins. |
| " | Ninth month 11th, | Third-day, | Meeting of the Board of Managers. |
| " | Ninth month 11th, | Third-day, | Examinations for admission begin. |
| " | Ninth month 13th, | Fifth day, | Examinations for admission completed
and old students return. |
| " | Ninth month 14th, | Sixth-day, | Regular Exercises begin. |
| " | Twelfth month 3d, | Second-day, | Meeting of the Board of Managers. |
| " | Twelfth month 4th, | Third-day, | ANNUAL MEETING OF STOCKHOLDERS. |
| " | Twelfth month 4th, | Third day, | Meeting of the Board of Managers. |
| " | Twelfth month 22d, | Seventh day, | Holidays begin. |
| 1878. | First month 2d, | Fourth-day, | Students return. |
| " | First month 3d, | Fifth-day, | Regular Exercises begin |
| " | Second month 12th, | Third day, | Meeting of the Board of Managers. |
| " | Fifth month 4th, | Seventh-day, | Junior Day. |
| " | Fifth month 6th, | Second day, | Senior Examinations begin. |
| " | Fifth month 14th, | Third-day, | Senior Examinations completed, the re-
sult announced, and parts for Com-
mencement assigned. |
| " | Sixth month 10th, | Second day, | Annual Examinations begin. |
| " | Sixth month 17th, | Second day, | Annual Examinations completed, and
the result announced, |
| " | Sixth month 17th, | Second-day, | Meeting of the Board of Managers. |
| " | Sixth month 18th, | Third-day, | COMMENCEMENT. |
| " | Sixth month 19th, | Fourth-day, | Summer Vacation begins. |
| " | Ninth month 10th, | Third-day, | Meeting of the Board of Managers. |
| " | Ninth month 10th, | Third-day, | Examinations for admission begin. |
| " | Ninth month 12th, | Fifth-day, | Examinations for admission completed,
and old students return. |
| " | Ninth month 13th, | Sixth-day, | Regular Exercises begin. |
| " | Twelfth month 2d, | Second day, | Meeting of the Board of Managers. |
| " | Twelfth month 3d, | Third-day, | ANNUAL MEETING OF STOCKHOLDERS. |
| " | Twelfth month 3d, | Third-day, | Meeting of the Board of Managers. |
| " | Twelfth month 21st, | Seventh-day, | Holidays begin. |
| 1879. | First month 2d, | Fifth-day, | Students return. |
| " | First month 3d, | Sixth-day, | Regular Exercises begin. |

CORPORATION.

Officers.

CLERKS.

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SARAH F. CORLIES.

BOARD OF MANAGERS.

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ANNIE COOPER,

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EDWARD TAYLOR,

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SARAH F. CORLIES, *Ex-officio*.

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511 Commerce Street, Philadelphia.

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RACHEL T. JACKSON,
JAMES V. WATSON.

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JOSEPH WHARTON,	ISAAC H. CLOTHIER,
CLEMENT M. BIDDLE, Sec'y and Treas. of Committee.	

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ISAAC H. CLOTHIER,	ANNIE COOPER,
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M. FISHER LONGSTRETH, <i>Ex-officio</i> .	

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THE MATRON.

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WILLIAM HYDE APPLETON.

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ESTHER T. MOORE, A.B.,
INSTRUCTOR IN MATHEMATICS.

JOHN B. BOOTH, A.B.,
INSTRUCTOR IN ENGLISH BRANCHES.

MARY G. PROCTER,

INSTRUCTOR IN GERMAN AND IN ENGLISH BRANCHES.

ELLEN M. GRISCOM,

INSTRUCTOR IN FREE HAND DRAWING.

M. MARIE UNDERWOOD,

INSTRUCTOR IN ELOCUTION.

KATHARINE L. ROCKWELL,

LIBRARIAN.

Students.

SENIOR CLASS.

CLASSICAL SECTION.

BURR, CAROLINE E.	. . . . .	Germantown, Pa.
DAVIS, MAYBELL P.	. . . . .	Providence, R. I.
DAWSON, HOWARD,	. . . . .	Saratoga Springs, N. Y.
GLEIM, TACY A.	. . . . .	Lebanon, Pa.
HALLOWELL, MARY P.	. . . . .	Horsham, Pa.
HAWKINS, CHARLES A.	. . . . .	Fawn Grove, Pa.
HUNT, REBECCA S.	. . . . .	Philadelphia, Pa.
MARTIN, EDWARD	. . . . .	Philadelphia, Pa.

MODERN CLASSICAL SECTION.

HOLCOMB, WILLIAM P.	. . . . .	Newtown, Pa.
JACKSON, ANNA E.	. . . . .	Kennett Square, Pa.

ENGINEERING SECTION.

HALL, WILLIAM J.	. . . . .	West Chester, Pa.
JOHNSON, LLEWELLYN H.	. . . . .	Orange, N. J.
ROBERTS, ISRAEL	. . . . .	Fellowship, N. J.
SEAMAN, WILLIAM	. . . . .	Brooklyn, L. I.

CHEMICAL SECTION.

PALMER, FRANCIS J.	. . . . .	Brooklyn, L. I.
SHOEMAKER, C. HARRY	. . . . .	Philadelphia, Pa.

JUNIOR CLASS.

CLASSICAL SECTION.

FENDER, WILLIAM P.	Ralston, Pa.
FERRIS, W. LEA	Wilmington, Del.
FITCH, JOSEPH	Flushing, L. I.
HOPPER, LESLEY	Havre de Grace, Md.
KEMP, MARIE A.	Harrisburg, Pa.
MOORE, MARY L.	Sandy Spring, Md.
RHOADS, JACOB Z.	Pine Grove, Pa.
WHITE, JOSEPHINE,	Yardleyville, Pa.

MODERN CLASSICAL SECTION.

FURNAS, ELIZABETH	Waynesville, O.
MILLER, CHARLES R.	North Point, Pa.
WOODNUTT, ABBY M.	Richmond, Ind.

SCIENTIFIC SECTION.

COLES, ISAAC R.	Glen Cove, L. I.
LIPPINCOTT, ELISHA E.	Long Branch, N. J.
MCCOMB, S. CRAIG	Columbus, N. J.

SOPHOMORE CLASS.

CLASSICAL SECTION,

CONSTABLE, ANNE E.	Philadelphia, Pa.
DETRICK, LILLIE	Baltimore, Md.
DUNCAN, LYDIA F.	Easton, Md.
HALL, FLORENCE	West Chester, Pa.
HALLOWELL, EDITH	Sandy Spring, Md.
HILLMAN, MYRA T.	Washington, D. C.
KURTZ, GEORGINE	Reading, Pa.
LAING, GEORGE T.	Philadelphia, Pa.
LAWTON, ALBERT R.	Skaneateles, N. Y.
MAGILL, GERTRUDE B.	Swarthmore, Pa.
MOORE, THOMAS L.	Sandy Spring, Md.
PRESTON, ELLEN M.	Columbia, Pa.
TURTON, JOHN. JR.	New York City.
WILLETS, FANNIE A.	Roslyn, L. I.

MODERN CLASSICAL SECTION.

BEDELL, ELLEN B.	Norristown, Pa.
COCKS, MARY A.	Cornwall, N. Y.
CONROW, HOWARD F.	Wilmington, Del.
DETRICK, WILLIAM H.	Baltimore, Md.
KIRK, FANNY R.	Philadelphia, Pa.
POUND, ROBINSON	Plainfield, N. J.

SCIENTIFIC SECTION.

HIGGINS, ROBERT B.	Rockville, Md.
KEISER, EDWARD H.	Hokendauqua, Pa.
MARCHER, ROBERT J.	High Bridge, N. Y.
THORNE, HOWARD E.	Yonkers, N. Y.
WALKER, CHARLES P.	New York City.
WOOD, HENRY S.	Bristol, Pa.

FRESHMAN CLASS.

CLASSICAL SECTION.

BURR, WALTER L.	Germantown, Pa.
CANBY, WILLIAM, JR.	Baltimore, Md.
CONROW, HANNAH A.	Cinnaminson, N. J.
CLARK, BESSIE P.	Bangor, Me.
DEACON, ANNA H.	Mt. Holly, N. J.
DELL, JOSEPHINE	Woodbury, N. J.
HASLAM, KATIE	Penningtonville, Pa.
KIRK, EMMA	Bryn Mawr, Pa.
MARSHALL, ELIZABETH,	Milwaukee, Wis.
MAROT, MARY S.	Philadelphia, Pa.
MENDENHALL, ANNA	Hamorton, Pa.
NORTON, ROBERT W.	San Antonio, Texas.
PAULIN, EUGÈNE	Swarthmore, Pa.
PHILLIPS, ARTHUR W.	Waterford, Va.
ROBERTS, ALICE	Fellowship, N. J.
TAYLOR, HELEN	West Chester, Pa.
TUCKER, ERNEST F.	Paris, France.
WILLIAMS, SUSAN T.	Waterford, Va.

MODERN CLASSICAL SECTION.

ANGELL, MINNIE H.	Ghent, N. Y.
DALLETT, ELIZABETH H.	West Chester, Pa.
ELLIOTT, MARY J.	Norristown, Pa.
FRENCH, MARGARET B.	Camden, N. J.
HOFFMAN, AGNES	West Philadelphia, Pa.
HOLME, JENNIE S.	Salem, N. J.
KESTER, ROSELDA	West Philadelphia, Pa.
LIPPINCOTT, CAROLINE	Cheltenham, Pa.
LIPPINCOTT, GEORGE	Cheltenham, Pa.
REECE, LYDIA D.	Media, Pa.
PARRY, TACIE	Cinnaminson, N. J.
SATTERFIELD, CLARA	Greensboro', Md.
SHOEMAKER, ALVIN T.	Baltimore, Md.

SCIENTIFIC SECTION.

BAKER, RICHARD D.	Philadelphia, Pa.
BOND, ALFRED H.	Philadelphia, Pa.
COCKS, WILLIAM W.	Old Westbury, L. I.
COX, CHARLES B.	Port Washington, L. I.
DALLETT, E. JAMES	West Chester, Pa.
DORON, CHARLES B.	Germantown, Pa.
FENNIMORE, HENRY D.	Lumberton, N. J.
FIELD, CHARLES C.	Brooklyn, L. I.
FRENCH, SAMUEL H.	Philadelphia, Pa.
JONES, A. CONRAD	Conshohocken, Pa.
MUSSER, F. REBER	Muncy, Pa.
PRICE, SAMUEL B., JR.	Upper Lehigh, Pa.
RUSHMORE, CHARLES F.	Cooksburg, N. Y.
RUSHMORE, EDWARD C.	Cooksburg, N. Y.
SEAMAN, HARRY B.	Brooklyn, L. I.
SHARPLESS, CHARLES E.	Media, Pa.
SMITH, PERCIVAL C.	Brooklyn, L. I.
THOMAS, J. BYRON	Cheyney, Pa.

S U M M A R Y.

CLASSICAL DEPARTMENT.

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Junior Class	8
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Junior Class	3
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Conditions of Admission and Courses of Study.

Every applicant for admission must submit to the President satisfactory testimonials of good moral character; and students coming from another college must present certificates of honorable dismission from the institution left.

Examinations for admission will be held on Third, Fourth, and Fifth-days, the 10th, 11th and 12th of Ninth month, 1878. Candidates must present themselves at the college at three o'clock, P.M., on Third-day, the 10th of Ninth month.

To secure places, applications for admission for the next scholastic year should be made, as early as possible, by letter to the President, enclosing the form found opposite the title page of this catalogue.

Candidates for advanced standing must first be examined for admission to the Freshman Class; then in all the *required* studies already gone over by the class for which they offer themselves, and in as many *elective* studies as they would have pursued if they had entered at the beginning of the course.

Especial attention is called to the importance of a thorough preparation in the studies required for admission. The want of this is a serious source of embarrassment to future progress, and is rarely repaired by subsequent study. The work is arranged for those only who enter classes thoroughly prepared.

Students are not considered as regular members of the College until, after a residence of at least four months, they have been admitted to matriculation on satisfactory evidence of good moral character. Before this they are students on probation.

The attention of parents and guardians is called to the arrangement of the Courses of Study. In the Preparatory School and in the lower College classes, most studies are required; while in the higher College classes many are elective. The pursuit of the regular course, whether students are candidates for degrees or not, is especially recommended before reaching the Junior year.

The studies of each class in any course are among the electives for students *of that class* in any other course, if they are prepared to pursue them, and pass the necessary preliminary examination.

CLASSICAL COURSE.

CONDITIONS OF ADMISSION.

Candidates for admission to the Freshman Class will be examined on the following subjects and text-books, or their equivalents:

Latin.—Harkness's Grammar; Harkness's Reader; Harkness's Composition, first thirty lessons; Caesar's Gallic War, first three books; and Virgil's *Æneid*, first two books.

French.—Magill and Paulin's First Lessons; Magill's Grammar; Magill's Introductory Reader.

Mathematics.—Arithmetic; Algebra, to Equations of the Second Degree; Davies' Legendre's Geometry, first three books.

English.—English Grammar and Spelling; Modern Geography, Descriptive and Physical; Ancient Geography (Baird's Classical Manual); Physics (Rolfe and Gillet's Natural Philosophy); Barnes's History of the United States; Anderson's History of England; Smith's History of Greece.

COURSE OF STUDY.

This course of study has been very carefully arranged with reference to *general culture*; and it is also believed to be the best foundation for a subsequent technical course of education, in any department which may be chosen. Those whose time and means will permit are earnestly advised to add to this course, after graduation, the last two years of one of the departments of our scientific course. It will be observed that scientific studies, in due proportion, are introduced as essential parts of the Classical course.

MODERN CLASSICAL COURSE.

The MODERN CLASSICAL COURSE, for completing which the degree of BACHELOR OF LITERATURE is conferred, is the same as the following, except that a fuller course in Modern Languages, and one in Early English, are substituted for the Ancient Languages.

FRESHMAN CLASS.

	<i>No. of Ex. per week.</i>
Latin. —Harkness's Grammar and Latin Prose Composition:	
Virgil's <i>Æneid</i> , continued; Livy.	4
French. —Magill's Grammar; Fénelon's <i>Télémaque</i>	2
German. —Otto's Conversation Grammar; <i>Der Neffe als Onkel</i>	3
Mathematics. —Olney's Algebra, through Quadratic Equations;	
Davies' Legendre's Geometry, Books IV–VI.	3
History. —Liddell's History of Rome; Schmitz's Manual of	
Ancient History.	3
English Literature. —Lectures on English and General Literature, (once a week first half year,)	$\frac{1}{2}$
Natural History. —Zoology; Comparative Anatomy; Comparative Physiology (Lectures)	1
Elocution. —Murdock and Russell's Vocal Culture; Coates's Speaker; Selections from English Classical Authors; Declamations	1
Rhetoric and Composition. —Hart's Rhetoric; Essays	1

ELECTIVE STUDIES.

Greek. —Goodwin's Grammar; Xenophon's <i>Anabasis</i>	4
Early English	2

SOPHOMORE CLASS.

	<i>No. of Ex. per week.</i>
Latin. —Harkness's Grammar and Latin Prose Composition; Cicero's Orations; Livy, continued	4
French. —Magill's Grammar; Magill's Prose and Poetry	2
German. —Otto's Conversation Grammar; Wilhelmi's Einer muss heirathen; Lessing's Minna von Barnhelm.	3
Mathematics. —Chauvenet's Plane Trigonometry; Davies' Le- gendre's Geometry, Books VII-IX.	2
English Literature. —Lectures on English and General Litera- ture	1
Physics. —Hill's Stewart's Physics (Lectures)	2
Botany. —(After 4th month, 1st.)	2
Natural History. —Zoology; Comparative Anatomy; Compar- ative Physiology (Lectures) Mineralogy, Geology and Botany (once a week last half year,)	1½
Elocution. —Selections from Classical English Authors; Decla- mations, Original and Selected	1
Rhetoric and Composition. —Quackenbos's Rhetoric; Essays	1

ELECTIVE STUDIES.

Greek. —Goodwin's Grammar; Xenophon's Anabasis, Homer's Iliad, Greek Prose Composition; Goodwin's Greek Moods and Tenses	4
History. —Student's Gibbon; Student's History of France; History of England (Lectures)	2
Early English	2

JUNIOR CLASS.

	<i>No. of Ex. per week.</i>
Latin. —Horace's Odes; Cicero's De Claris Oratoribus, De Senectute, and De Amicitia	4
Political Economy. —Principles of Political Economy, Mill; Carey (Lectures)	2
Chemistry. —Inorganic Chemistry (Lectures)	2
Natural History. —Lectures on Mineralogy, Geology and Botany (once a week last half year)	$\frac{1}{2}$
Elocution. —Declamations, Original and Selected	1
Rhetoric and Composition. —Blair's Rhetoric; Essays.	1

ELECTIVE STUDIES.

(Two to be Chosen.)

French. —Magill's Grammar; Bôcher's College Series; Dumas' Napoléon; &c.	4
German. —Schiller's Maria Stuart and William Tell; Eichen-dorff's Aus dem Leben eines Taugenichts; Exercises in writing German	3
Greek. —Selections from Greek Historians; Plato's Apology and Crito	4
Mathematics. —Chauvenet's Spherical Trigonometry; Olney's Higher Algebra	4
History. —History of the United States (Lectures); History of Modern Europe (Lectures)	2
Early English.	2

SENIOR CLASS.

	No. of Ex. per week.
Mental Philosophy. —Wayland, with Lectures (once a week first half year)	$\frac{1}{2}$
Moral Philosophy. —Wayland, with Lectures (once a week last half year)	$\frac{1}{2}$
Latin. —Horace's Satires and Epistles; Tacitus, Agricola and Germania; Selections from Juvenal	4
History. —Guizot's History of Civilization; De Tocqueville's Democracy in America; Constitution of the United States	2
Natural History. —Lectures on Mineralogy, Geology and Botany (once a week last half year)	$\frac{1}{2}$
Elocution. —Original Orations	1
Rhetoric and Composition. —Essays	1

ELECTIVE STUDIES.

(Three to be chosen.)

French. —Magill's Grammar, Corneille's Cid; Racine's Athalie; Molière's Misanthrope; &c.	4
German. —Goethe's Damas; German Prose; Exercises in Writing German; History of German Literature (Lectures)	4
Greek. —Sophocles' Antigone; Euripides' Alceste; Demosthenes' De Corona; History of Greek Literature (Lectures)	4
Mathematics. —Olney's Analytical Geometry; Olney's Differential and Integral Calculus	4
Chemistry. —Experimental work in the Laboratory	4
Astronomy. —Loomis's Astronomy; Chauvenet's Spherical and Practical Astronomy	4
Early English.	2

SCIENTIFIC COURSE.

CONDITIONS OF ADMISSION.

The conditions of admission are the same as for the Classical Course, except that Latin is not required, although a sufficient knowledge of the construction to read easy Latin Prose is earnestly recommended. It is also very desirable that all applicants for admission should have had at least one year's instruction in Free-hand Linear Drawing.

COURSE OF STUDY.

There are no Elective Studies in the first two years of this course. In the Junior and Senior years students may elect either all Chemical, or all Engineering studies, or from both departments. While full courses in professional studies are thus provided for, it will be seen that care has been taken to secure *general culture*, and not to make of students of this course *merely* chemists or engineers.

CHEMICAL DEPARTMENT.

The work in this department occupies four years, and is intended to prepare students to fill positions as teachers or analytical chemists, and to provide such a general knowledge of chemical science, and its applications to the arts, for those who wish to take up the special problems of technical chemistry, as will afford a good basis for their subsequent investigations.

The department is also open to those students, of maturer age, whose time is limited, and who wish to prepare themselves for positions requiring a knowledge of Chemistry.

A partial course in medical chemistry has been arranged as an elective, for the benefit of those who intend to study medicine or pharmacy after graduation.

The Laboratory has been fitted up in the most approved manner to accommodate twenty-four students at a time; each desk being provided with running water, gas, and sink. The Laboratory is heated by steam, and furnished with hoods, sand, steam and air baths, furnaces, balances, a good microscope, spectroscope, &c., suitable for carrying on all ordinary Laboratory work.

Students will be charged only for chemicals and apparatus actually used up. No charge is made for gas.

ENGINEERING DEPARTMENT.

The object of this department is to furnish a good foundation in Mathematics, Physics, Mechanics, and Drawing, and their applications, for the student of Civil or Mechanical Engineering. Its graduates will be prepared to become immediately useful in the office or field, in subordinate positions, and, after a fair amount of practice, to design and take charge of important works. The department is also open to those students whose time is limited, and who do not intend to graduate, by whom partial courses in Surveying and Draughting can be pursued with great practical advantage.

The department is well provided with the necessary field instruments, and each student is made familiar with their uses and management. The Draughting room is well lighted from above, and is provided with the Worcester Adjustable Drawing Tables, models, drawings, &c.

Connected with the department is a machine shop, in which a certain amount of practice is required of each student, who thus becomes acquainted with the uses of the various tools, and learns to avoid errors in designing, by being required to execute, from his own drawings, parts of structures or of machinery. The shop is well provided with excellent tools, including a screw-cutting engine lathe, iron planer, &c. A vertical engine and boiler of four horse power, built for the department, is used both for running the machinery, and for class illustration and instruction.

FRESHMAN CLASS.

	<i>No. of Ez. per week</i>
Chemistry. —Inorganic Chemistry; Lectures (last half year)	8
Graphics. —Construction of plane Problems in Geometry; use of Drafting Instruments, India Ink, and Colors; Projections (first half year)	8
Mathematics. —Olney's Algebra, through Quadratic Equations; Davies' Legendre's Geometry, Books IV—VI.; Chauvenet's Plane Trigonometry	4
French. —Magill's Grammar; Siège de la Rochelle	2
German. —Otto's Conversation Grammar; Der Neffe als Onkel	3
History. —Liddell's History of Rome; Schmitz's Manual of Ancient History	3
English Literature. —Lectures on English and General Literature, (once a week first half year)	$\frac{1}{2}$
Natural History. —Zoology; Comparative Anatomy; Comparative Physiology (Lectures)	1
Elocution. —Murdock and Russell's Vocal Culture; Coates's Speaker; Selections from English and Classical Authors; Declamations	1
Rhetoric and Composition. —Hart's Rhetoric; Essays	1

SOPHOMORE CLASS.

	<i>No. of Ex. per week.</i>
Chemistry. —Laboratory practice ; Blow-pipe Analysis and Determinative Mineralogy—Nason and Chandler ; Qualitative Analysis—Thorpe ; (first half year)	8
Descriptive Geometry. —Orthographic projections of the Point, Right Line, and Plane,	2
Graphics. —Projection Drawing ; Tinting and Shading ; Construction of Problems in Descriptive Geometry, (last half year,)	8
Physics. —Hill's Stewart's Physics (Lectures)	2
Botany. —(After 4th mo. 1st,)	2
Mathematics. —Davies' Legendre's Geometry, Books VII–IX. ; Olney's Analytical Geometry ; Olney's Differential and Integral Calculus	4
French. —Magill's Grammar ; Magill's Prose and Poetry	2
Surveying. —Gillespie, and Lectures	2
German. —Otto's Conversation Grammar ; Wilhelmi's Einer muss heirathen	3
English Literature. —Lectures on English and General Literature	1
Natural History. —Zoology ; Comparative Anatomy ; Comparative Physiology (Lectures) ; Mineralogy, Geology and Botany, (once a week last half year)	1½
Elocution. —Selections from Classical English Authors ; Declamations, Original and Selected	1
Rhetoric and Composition. —Quackenbos's Rhetoric ; Essays	1

JUNIOR CLASS.

	<i>No of Lec. per week.</i>
Physics.—Acoustics; Optics; Heat; Electricity	2
*Mathematics.—Chauvenet's Spherical Trigonometry; Olney's Higher Algebra	4
Political Economy.—Principles of Political Economy; Mill; Carey (Lectures)	1
Natural History.—Lectures on Mineralogy, Geology and Botany (once a week last half year)	$\frac{1}{2}$
Essays on Scientific Subjects	1

ELECTIVE STUDIES.

N. B.—The Student MUST elect either all the studies of one department, or their equivalent in amount from both departments.

I. Chemical Department.

Chemistry.— <i>Practical</i> —Quantitative Analysis; Mineral Analysis; Spectrum Analysis; Volumetric Analysis (Lectures)	18
Chemistry.— <i>Theoretical</i> —Cooke's Chemical Philosophy	3

II. Engineering Department.

Engineering.— <i>Geodesy</i> —Theory, Adjustment, and use of Engineering Field Instruments; Farm Surveying; Leveling; Topographical, Triangular, and Hydrographical Surveying	4
Mechanics.—Analytical Mechanics of Solids and Fluids	2
Descriptive Geometry.—Warped Surfaces and Intersections; Shades, Shadows, and Perspective; and Applications	2
Graphics.—Topographical, Structure, and Machine drawing; Principles of Mechanism; Visits to and Sketches of Special Machinery and Structures	12
Practical Exercises in Engineering Field Work, or in the Machine Shop	4

*French or German may be substituted by students in the chemical department.

SENIOR CLASS.

	No. of Ex. per week.
Mental Philosophy. —Wayland, with Lectures, (once a week first half year)	$\frac{1}{2}$
Moral Philosophy. —Wayland, with Lectures, (once a week last half year)	$\frac{1}{2}$
Natural History. —Lectures on Mineralogy, Geology and Botany (once a week last half year)	$\frac{1}{2}$
Essays on Scientific Subjects	1

*ELECTIVE STUDIES.

I. *Chemical Department.*

Chemistry. — <i>Practical</i> —Quantitative Analysis continued; Organic Analysis; Special Determinations; Assaying; Chemical Preparations	28
Chemistry. — <i>Theoretical</i> —Lectures on Organic and Technical Chemistry	2

II. *Engineering Department.*

Engineering. — <i>Road Engineering</i> —Theory and Practice; <i>Constructions</i> —Stability of Structures, Building Materials, Foundations and Superstructures, Bridge Engineering	4
Mechanics. — <i>Physical Mechanics</i> —Friction and other resistances, Stress and Strength of Materials, Practical Hydraulics, Practical Pneumatics; <i>Machines</i> —General Theory of Machines, Theory of Prime Movers	4
Graphics. —Plans, Profiles and Sections of Road Surveys; Machine and Structural Drawing; Working Drawings	12
Practical Exercises in Field Work, and in the Machine Shop	6
Astronomy. —Descriptive Astronomy and Determination of Meridian, Time, Latitude and Longitude	4

*Chosen as in the Junior Class.

DEGREES.

The Degree of A. B. is conferred upon students who complete the Classical Course, and pass the examinations in the same.

The Degree of B. L. is conferred upon students who complete the Modern Classical Course (see p. 15), and pass the examinations in the same.

The Degree of B. S. is conferred upon students who complete the Scientific Course, and pass the examinations in the same.

The Degree of A. M. will be given, three years after graduation, to all Bachelors of Arts who shall have engaged, during that period, in professional or literary studies, and who shall present an acceptable thesis.

The Degree of M. L. will be given, three years after graduation, to all Bachelors of Literature who shall have engaged, during that period, in professional or literary studies, and who shall present an acceptable thesis.

The Degree of M. S. will be given, three years after graduation, to all Bachelors of Science who shall have engaged, during that period, in professional or scientific studies, and who shall present an acceptable thesis upon some scientific subject.

The Degree of C. E. will be given, three years after graduation, to all Bachelors of Science of the Engineering Department who shall have engaged, during that period, in professional practice, and who shall present an acceptable thesis upon subjects pertaining to Civil Engineering.

Applications for the Second Degree in any course must be made, and the thesis presented at least three months before commencement.

The Second Degree will also be conferred upon those Bachelors of Arts, of Literature, or of Science, who, as Resident Graduates, shall continue their studies under the advice and direction of the Faculty for one year after graduation, and pass the examinations in the same.

GENERAL INFORMATION.

SITUATION.

SWARTHMORE COLLEGE is situated on the West Chester and Philadelphia Railroad, ten miles from Philadelphia. Cars leave the depot at Thirty-first and Chestnut Streets, West Philadelphia, ten times daily.

POST-OFFICE ADDRESS AND CITY OFFICE.

The Post-Office address is SWARTHMORE, DELAWARE CO., PA. Express packages may be sent to this address, or, *if small*, may be left in care of Friends' Book Association, 706 Arch Street, Philadelphia.

LIBRARIES.

The Libraries of the College now contain nearly three thousand volumes. Each department of study is supplied with a good and steadily increasing library of reference. The General Library is accessible to all the students, according to the rules established by the Faculty, and is open once a week during term time for the delivery of reading books, and daily for the delivery of books of reference needed by the students. It is open at all times to teachers and members of the household.

Friends' Historical Library of Swarthmore, founded by Anson Lapham, which contains a small but increasing collection of Friends' books, photographs of representative Friends, and manuscripts relating to the Society and its history, is at all times accessible to teachers, students, and members of the household.

PHYSICAL CULTURE.

Regular daily exercise in the open air is encouraged, for which the extensive grounds connected with the College afford ample facilities. The gymnasium is open every day for the voluntary exercise of the students.

RELIGIOUS EXERCISES.

While care is taken to inculcate the doctrine that religion is a matter of practical daily life, and is not confined to the observance of set forms or the promulgation of religious tenets, the regular assembling for religious purposes is carefully observed. On First-day morning a religious meeting is held, attended by students, teachers, and members of the household, and occasionally by visiting Friends. The meeting is preceded by First-day school exercises, consisting of the recitation of passages of Scripture prepared by members of the different classes, and the reading of a portion of Scripture at the close. The daily exercises are opened by a general meeting for reading selected portions of Scripture, or other suitable books, and imparting such moral lessons as circumstances seem to require, followed by a period of silence before entering upon the duties of the day.

VISITING AND LEAVE OF ABSENCE.

Students should not be visited at the College on the FIRST DAY OF THE WEEK.

Leave of absence cannot be granted without a written request from parents or guardians, which request should, in all cases, be accompanied by reasons satisfactory to the Faculty.

Students may be visited, on week-days, by parents or guardians, or by near relatives, or others approved by parents or guardians; but general visiting is discouraged. *Students must not be interrupted in their studies or recitations at any time.*

All persons who are interested in education, and who are desirous of examining the methods of instruction and discipline at Swarthmore, will be welcome at any time, and should, when convenient, communicate with the President upon the subject in advance.

COMMENCEMENTS AND VACATIONS.

The College year begins on the second Third-day of Ninth month, and closes with Commencement day, which occurs on the third Third-day of Sixth month.

Students are not admitted for a period terminating earlier than the current college year, but, when vacancies exist, may enter at any time during the year, if prepared to join existing classes.

Besides the summer vacation there will be a vacation of one week at Christmas.

OUTFIT.

Although no form of dress is prescribed for either sex, such simple attire as is appropriate to school life is earnestly recommended. Ear-rings, bracelets, necklaces, and elaborately trimmed dresses are prohibited.

Students should be supplied with six towels, six napkins, two clothes-bags, a wrapper, slippers, umbrella, and the requisite toilet articles. Every article must be marked with the full name of the owner.

USE OF TOBACCO.

The use of Tobacco being strictly prohibited, those addicted to its use, unless prepared to renounce it entirely, should not apply for admission.

EXPENSES.

FOR RESIDENT STUDENTS the price of board and tuition is \$350 per year, of which \$200 is payable in advance, and \$150 on the first of First month. A proportionate deduction is made to those students who enter after the opening of the college year.

FOR DAY SCHOLARS the price is \$200 per year, of which one-half is payable in advance, and the remainder on the first of First month. The day scholars dine with the resident students.

Books are furnished for the use of students without expense, but they buy their own stationery and drawing implements. Students in Practical Chemistry pay for the chemicals which they use in the laboratory. No additional charge is made in case of sickness unless extra expense is incurred.

THERE ARE NO EXTRA CHARGES.

The price being made as low as experience shows to be compatible with prudence, while many of our expenses are annual in their character, and teachers and other officers at fixed yearly salaries, must be engaged in proportion to the number of students entered, we cannot, in case of withdrawals, return the full proportionate amount paid, without loss. When the connection of a student with the College shall terminate before the end of the period for which payment has been made, by sickness, or any other cause,

approved by the Faculty, the student may have the privilege of sending an approved substitute, for the unexpired term, or may apply, in writing, to the Treasurer, and a return will be made at the rate of \$25 per month, from the date of said application or written notice that the place is vacated.

PAYMENTS.

Payments are to be made by check or draft to the order of ROBERT BIDDLE, Treasurer, No. 511 Commerce Street, Philadelphia.

PREPARATORY SCHOOL.

GENERAL STATEMENT.

This school is intended to prepare students for the Classical and Scientific Courses of the College, or to furnish a good practical education to those desiring a shorter course. Most of the studies pursued are required of all, but few being optional, as experience has clearly shown that young students make much more satisfactory progress when pursuing a regularly required course, even for a single year without any idea of graduation, than when they select all their studies for themselves. The course of study in this school, while it is an essential preparation for the two departments of the College, is also believed to be the best training for those whose means and circumstances require that they should finish their studies in the Preparatory School, or before reaching the end of the College course. Attention is invited to the course of study as here arranged, and the various Preparatory Schools among Friends throughout the country are requested to conform to it, as far as practicable, and to prepare students to enter our Freshman Class, either in the Classical or the Scientific course. To secure this end, a thorough mastery of the elementary principles of the *subject* taught, and not a mere knowledge of the text-books required, is most earnestly recommended. Subsequent study can rarely, if ever, atone for deficient preparation.

ORGANIZATION.

The School is at present divided into three classes, A, B, and C. Classes A and B are divided into classical and scientific sections, preparing for these respective courses in the college.

GOVERNMENT AND INSTRUCTION.

The students of the Preparatory School are under the same general management as the College classes. With a few excep-

tions, the same general rules are applicable to both, and the students of this school receive instruction from teachers employed especially for this purpose, and also from professors and instructors of the College.

EXPENSES, ETC.

The expenses of students of this school are the same as those of students of the College classes, and the various remarks under the head of GENERAL INFORMATION* in the College Catalogue are applicable alike to the College and the Preparatory School.

CONDITIONS OF ADMISSION.

Applicants for admission must be at least thirteen years old, and should submit to the President, from their last teacher, satisfactory testimonials of good moral character.

Examinations for admission will be held on Third, Fourth, and Fifth-days, the 10th, 11th and 12th of Ninth month, 1878. Candidates must present themselves at three o'clock, P. M. on Third-day, the 10th of Ninth month. To secure places, applications for admission for the next scholastic year should be made, as early as possible, by letter to the President.

Candidates for admission to class C will be examined as follows:

In Elements of English Grammar, embracing a knowledge of the Parts of Speech, and their uses; Reading and Spelling; Geography of the United States; Arithmetic, through Decimal Fractions.

Candidates for the advanced classes of the Preparatory School will be further examined in the studies of the classes below that which they propose to enter.

*See pages 29—30.

COURSES OF STUDY.

The only elective studies in the Preparatory School are as follows :

Natural History (lectures), elective in all the classes ;

Latin and French, elective in Class C.

CLASS C.

	<i>No. of Ex. per week.</i>
Arithmetic. —Brooks's Normal Written and Brooks's Normal Mental Arithmetic, through Percentage	4
Geography. —Guyot's Grammar School Geography ; Map Drawing	3
Grammar. —Swinton's Language Lessons	3
History. —Ridpath's History of the United States	2
Reading and Speaking. —Phonetic Spelling ; Enunciation of Words ; Monroe's Fifth Reader ; Declamations	3
Spelling. —Leach's Speller, and Dictations	2
Composition	1
Writing	2
Free-hand Drawing	2

Elective Studies.

Latin. —Harkness's Introductory Latin Book	2
French. —Magill and Paulin's First Lessons in French	2

CLASSICAL COURSE.

CLASS B.

	<i>No. of Ex. per week.</i>
Latin.—Harkness's Grammar and Reader; Caesar begun	4
French.—Magill and Paulin's First Lessons in French; Magill's Introductory French Reader	3
Arithmetic.—Brooks's Normal Written and Brooks's Normal Mental Arithmetic, completed	3
Geography.—Warren's Physical Geography	2
History.—Anderson's History of England	3
Reading and Speaking.—Phonetic Spelling; Enunciation of Words; Hillard's Fifth Reader; Declamations	2
Spelling.—Leach's Speller and Dictations	1
Composition	1
Writing	2
Free-hand Drawing	2

CLASS A.

Latin.—Harkness's Grammar; Harkness's Latin Prose Compo- sition, first thirty lessons; Caesar's Gallic War, continued; Virgil's <i>Æneid</i> , begun	4
French.—Magill's French Grammar; Magill's Introductory French Reader	3
Mathematics.—Brooks's Algebra to Quadratic Equations; Davies' Legendre's Geometry, Books I.—III.	3
Physics.—Elementary Physics and Chemistry—Lectures	1
Uranography.—(Twice a week first half-year)	1
Physiology.—(Twice a week last half-year)	1
History and Geography.—Smith's History of Greece; Review of the History of the United States and England	3
Reading and Speaking.—Hillard's Sixth Reader; Murdock and Russell's Vocal Culture; Declamation	2
Spelling.—General Exercises upon Lists of Difficult Words; Dictations	1
Composition	1
Writing	2
Free-hand Drawing	2

SCIENTIFIC COURSE.

CLASS B.

	<i>No. of Ex. per week.</i>
Arithmetic. —Brooks's Normal Written and Brooks's Normal Mental Arithmetic, completed	4
*English Grammar. —Brown's English Grammar	4
French. —Magill and Paulin's First Lessons in French; Magill's Introductory French Reader	3
Geography. —Warren's Physical Geography	2
History. —Anderson's History of England	3
Reading and Speaking. —Phonetic Spelling; Enunciation of Words; Hillard's Fifth Reader; Declamations	2
Spelling. —Leach's Speller, and Dictations	2
Composition	1
Writing	2
Free-hand Drawing	2

CLASS A.

Mathematics. —Brooks's Algebra, to Quadratic Equations; Davies' Legendre's Geometry, Book I-IV.	4
Physics. —Elementary Physics and Chemistry (Lectures)	1
*English Grammar. —Analysis and Parsing; Merchant of Venice	4
French. —Magill's French Grammar; Magill's Introductory French Reader	3
Uranography. —(Twice a week first half-year)	1
Physiology. —(Twice a week last half-year)	1
History and Geography. —Smith's History of Greece; Review of the History of the United States and England	3
Reading and Speaking. —Hillard's Sixth Reader; Murdock and Russell's Vocal Culture; Declamations	2
Spelling. —General Exercises; Dictations	2
Composition	1
Writing	2
Free-hand Drawing	2

*Latin may be substituted for English Grammar in this course, at the request of parents or guardians.

List of Students in the Preparatory School.

CLASS A.

CLASSICAL SECTION.

BANER, W. LLEWELLYN	New York City.
BARNARD, JOSEPHINE	New Garden, Pa.
BROWN, CHARLES L.	Brooklyn, L. I.
BUNTING, MARTHA	Sharon Hill, Pa.
BUTLER, WILLIAM	West Chester, Pa.
CHANDLER, JOHN B.	Shoemakertown, Pa.
CHASE, CHARLES A.	Philadelphia, Pa.
CLAYTON, SAMUEL L.	Chester, Pa.
COOPER, BERTHA	Woodbury, N. J.
DETRICK, JOHN U.	Baltimore, Md.
DOWDALL, HANNAH C.	Avondale, Pa.
EMERSON, WILLIAM S.	Camden, Del.
FOULKE, P. FANNIE	Buckingham, Pa.
FRIDENBERG, EUGENE L.	Jacksonville, Fla.
GREEN, LYDIA S.	Media, Pa.
HANCOCK, EDWARD B.	Philadelphia, Pa.
HASLAM, ELIZABETH	Penningtonville, Pa.
HOLLINGSWORTH, ANNA T.	Fallston, Md.
JOHNSON, SADIE E.	Haverford, Pa.
KATER, SAMUEL	Media, Pa.
KNIGHT, EVA B.	Feasterville, Pa.
KNIGHT, JONATHAN C., JR.	Feasterville, Pa.
MILLER, MARGARET H.	Sandy Spring, Md.
ROCKHILL, CLEMENT B.	Columbus, N. J.
ROSSITER, HORACE L.	Spring House, Pa.
SEIPT, MANILIUS D.	Skippack, Pa.
SEYBURN, EDWARD I.	Pattersonville, La.

TURTON, CHARLES B.	New York City.
WEST, R. ANNA	King of Prussia, Pa.
WORTHINGTON, EMMA C.	Buckingham, Pa.
WORTHINGTON, MARY A.	West Chester, Pa.

CLASS A.

SCIENTIFIC SECTION.

BARBER, ESTHER M.	Philadelphia, Pa.
BOWNE, GEORGE I.	Bordentown, N. J.
BROWN, DAVID H.	Lincoln, Va.
ELDER, GEORGE R.	Johnstown, Pa.
KUHN, SAMUEL C.	Philadelphia, Pa.
LUKENS, NATHAN	Upper Darby, Pa.
MARSHALL, SAMUEL H.	Milwaukee, Wis.
MATTHEWS, J. FRANKLIN	Plainfield, N. J.
MERRITT, CAROLINE	Poughkeepsie, N. Y.
MILLER, CALEB S.	Sandy Spring, Md.
MILLER, WARWICK P., JR.	Sandy Spring, Md.
MOORE, JOSEPH T., JR.	Sandy Spring, Md.
PARVIN, WALTER M.	Philadelphia, Pa.
SHARPLESS, JOHN E.	Chester, Pa.
SHARPLESS, TOWNSEND	Philadelphia, Pa.
SPEAKMAN, WILLIAM A., JR.	Wallace, Pa.
TAYLOR, EMILIE L.	Brownsville, Pa.
VAN DYNE, GEORGE E.	Indianapolis, Ind.

CLASS B.

CLASSICAL SECTION.

ALLEN, VIRGINIA	Germantown, Pa.
CONROW, A. ALIDA	Philadelphia, Pa.
CROZER, LILLIE C.	Trenton, N. J.
DALLETT, JOSEPH H.	West Chester, Pa.
DEACON, MARY F.	Mt. Holly, N. J.
HENDERSON, R. MASON	Baltimore, Md.
JACKSON, ALICE W.	Horsham, Pa.

PATTERSON, HENRY L.	Philadelphia, Pa.
READ, ALFRED H.	Norristown, Pa.
STARR, EDWIN M.	Richmond, Ind.
VERREE, JAMES E.	Verreeville, Pa.
WOODNUTT, CLEMENT A.	Richmond, Ind.

CLASS B.

SCIENTIFIC SECTION.

CARTER, VAULX	Brooklyn, L. I.
CHALFANT, JOHN M.	Unionville, Pa.
CLINE, GEORGE A.	Roslyn, L. Y.
COLLINS, EDWARD B.	Pemberton, N. J.
CORLIES, GEORGE	Poughkeepsie, N. Y.
DOWDALL, WILLIAM F.	Avondale, Pa.
ELLIS, FRANCIS S.	Crosswicks, N. J.
GARNER, CHARLOTTE S.	Ridgewood, L. I.
GRUNDY, JOSEPH R.	Bristol, Pa.
HICKS, ANNIE J.	Ridgewood, L. I.
JONES, WILLIAM P.	Conshohocken, Pa.
KEEMLE, SAMUEL	Johnstown, Pa.
KEENER, CHARLES C.	Naples, Ill.
KISSAM, WILLIAM A.	Little Neck, L. I.
KNIGHT, J. LINCOLN	Holland, Pa.
LIPPINCOTT, ALFRED H.	Philadelphia, Pa.
MCCLENAHAN, CHARLES A.	Port Deposit, Md.
NORTON, HOWARD E.	Ironton, O.
PARVIN, WILLIAM R.	Philadelphia, Pa.
QUEVEDO, DESIDERIO G.	Matanzas, Cuba.
REEVES, THOMAS W.	Clarksboro, N. J.
SMITH, PHILOMON, J.	Damascus, Md.
SEAMAN, FREDERICK A., JR.	Madison, N. J.
THORNE, EDWARD C.	Yonkers, N. Y.

CLASS C.

ALLEN, BENJAMIN F.	Germantown, Pa.
ALLEN, JOHN M.	Germantown, Pa.
BUCHHOLZ, WILLIAM M.	Sharon, Pa.
BURNLEY, MICHAEL	Garrettsford, Pa.

CALDWELL, FRANK G.	Philadelphia, Pa.
FOWLER, GEORGE R.	Cienfuegos, Cuba.
FURMAN, SAMUEL G.	Trenton, N. J.
HIBBERT, DECATUR H.	Wallingford, Pa.
HOOPES, LOUIS H.	Philadelphia, Pa.
INNES, FRANCIS B.	Baltimore, Md.
JONES, M. EMMA	Brooklyn, L. I.
JONES, MORTIMER A.	Germantown, Pa.
LIPPER, HARRY M.	Philadelphia, Pa.
MARSHALL, CHARLES I.	Milwaukee, Wis.
NICHOLAS, WILLIAM G.	Roxborough, Pa.
PENNOCK, CHARLES W.	Coatesville, Pa.
PYLE, CARLETON J.	Mortonville, Pa.
SATTERTHWAITE, LAURA H.	Trenton, N. J.
WAGNER, CLYDE R.	Fremont, O.
WILLS, HANNAH W.	Philadelphia, Pa.
WILSON, DAISY	Dover, Del.

SUMMARY.

Class A,	49
Class B,	36
Class C,	21
Total in Preparatory School,	106

GENERAL SUMMARY

OF THE

COLLEGE AND PREPARATORY SCHOOL.

Senior Class,	16
Junior Class,	14
Sophomore Class,	26
Freshman Class,	49
Preparatory Students,	106
Total,	<u>211</u>

SUMMARY BY STATES.

Pennsylvania,	106
New York,	31
New Jersey,	26
Maryland,	21
Delaware,	4
Indiana,	4
Ohio,	3
Wisconsin,	3
Virginia,	3
District of Columbia,	1
Florida,	1
Illinois,	1
Louisiana,	1
Maine,	1
Rhode Island,	1
Texas,	1
Cuba,	2
France,	1
Total,	<u>211</u>

MINUTES
OF THE
FOURTEENTH ANNUAL MEETING
OF THE
STOCKHOLDERS
OF
SWARTHMORE COLLEGE,
HELD
TWELFTH MONTH, FOURTH,
1877.

MINUTES.

At the Fourteenth Annual Meeting of the Stockholders of Swarthmore College, held at Race Street Meeting House, Philadelphia, Twelfth month 4th, 1877, due public notice having been given, in accordance with the provisions of the Charter:

The minutes of the last Annual Meeting were read and approved.

The terms of office of the following Managers expired at this time:

Samuel Willets,	Jane P. Downing,
Clement M. Biddle,	Margaret G. Corlies,
Hugh McIlvain,	Louisa M. Stabler,
Daniel Underhill,	Mary C. Blackburn.

To nominate the officers of the Corporation, required by the Charter, viz.: two Clerks and a Treasurer, to serve for the ensuing year, and eight Friends, who are Stockholders, to fill the vacancies in the Board of Managers, the following were appointed:

Joseph Wharton, Jacob S. Bunting, Henry M. Laing, Dillwyn Parrish, John D. Hicks, Eli M. Lamb, Susan M. Parrish, Louisa J. Roberts, Annie Shoemaker, Lydia H. Hall, Jane D. Satterthwaite, Hannah H. Woodnutt, Thomas Mellor, Sallie J. Ash, Edward Hoopes and Isaac H. Cocks.

A communication signed by a committee of the Alumni of the College, asking that their organization be represented in the Board of Managers, by the election of one of their number, was read and referred to the Nominating Committee for consideration.

The reports of the Board of Managers, the Treasurer, and the Committee on Trusts, Endowments and Scholarships were read, separately considered, approved, and referred to the incoming Board for publication.

The Nominating Committee, having withdrawn for a time, submitted the following nominations:

CLERKS FOR ONE YEAR.

ISAAC H. CLOTHIER,

SARAH F. CORLIES.

MANAGERS FOR FOUR YEARS.

SAMUEL WILLETS,

JANE P. DOWNING,

CLEMENT M. BIDDLE,

MARGARET G. CORLIES,

DANIEL UNDERHILL,

MARY C. BLACKBURN,

EMMOR ROBERTS,

MARY W. COCKS.

TREASURER FOR ONE YEAR

ROBERT BIDDLE.

To serve as Inspectors of the Election, C. Newlin Pierce, Isaac H. Cocks and Eli M. Lamb, were appointed.

An election by ballot was held, and the Inspectors reported the above officers duly elected, without opposition.

The communication from the Alumni of the College, which was referred to the Nominating Committee, received consideration, and the Committee felt much satisfaction at this evidence of interest in the College felt by the Alumni; but it was not deemed advisable to accede to the request at the present time.

The connection of our esteemed friend, Hugh McIlvain, with the Board of Management having for the present terminated, the Stockholders being fully impressed with a sense of the services he has rendered to the College, feel desirous to place on record their appreciation of the importance and value of said services, so cheerfully and zealously performed by him in the interest of Swarthmore, since its foundation.

Then adjourned.

ISAAC H. CLOTHIER, } *Clerks.*
SARAH F. CORLIES, }

MANAGERS' REPORT.

At the close of the eighth year since the opening of the College, the Managers would respectfully submit to the Stockholders their Fourteenth Annual Report.

The number of students entered for the present year, is nearly as great as at this time last year. It is a gratifying circumstance to be able to report that there seems to be an increasing disposition to take advantage of the facilities offered by the College, and that the diminution in numbers has been in the lowest class of the Preparatory School, with an increase in the number of students in the upper College classes. The number of College students is considerably greater than in any previous year.

The classification of the students is as follows:—

Seniors,	.	.	.	.	.	16
Juniors,	.	.	.	.	.	14
Sophomores,	.	.	.	.	.	26
Freshmen,	.	.	.	.	.	49
Class A,	.	.	.	.	.	49
Class B,	.	.	.	.	.	36
Class C,	.	.	.	.	.	21
Whole number in the College,	.	.	.	.	.	105
“ “ “ Preparatory School,	.	.	.	.	.	106

It will be seen that the graduating class for the coming year numbers 16, a larger number than ever before, the entire Junior Class of last year, who were pursuing a regular course, having returned to graduate.

The courses of study provided continue as last year:—Classical, Scientific, and Literary; and the students are distributed in these courses as follows:—

Seniors,	Classical	8	Scientific	6	Literary	2
Juniors,	“	8	“	3	“	3
Sophomores,	“	14	“	6	“	6
Freshmen,	“	14	“	18	“	13
Class A,	“	31	“	18		
Class B,	“	12	“	23		

No division into Classical and Scientific Sections takes place in Class C, and in Classes B and A the only difference between the

two courses is, that the Classical students take Latin instead of English Grammar. The Literary or Modern Classical Course begins with the Freshman year, and those students who have pursued the Scientific Course in the Preparatory School, are prepared either to enter regularly upon the Literary, or continue in the Scientific Course, upon entering the Freshman Class. This course, which was established last year, opens the way to the completion of a regular course of study, and the receiving of a degree, by those who neither desire to take the full Scientific Course, nor to pursue the study of the Ancient Languages.

The College has so progressed during the past year as to inspire constantly increasing confidence in the public mind, which has been a source of great satisfaction.

The Managers have ever kept in view the interests of those who desire for their children the opportunities which Swarthmore affords, but who do not wish for them a collegiate education. Hence, great care is taken to secure the best possible facilities in our Preparatory School. To this end the courses of lectures for the older students, as far as practicable, are opened to the younger classes, and full courses of Lectures on Chemistry and Physics are included in the Preparatory work. The duties, also, are so arranged that even the youngest students profit, both directly and indirectly, by the large experience and ability of those engaged in giving instruction in the higher departments. Thus, a very excellent and profitable course is received by those who spend two or three years, or even a single year, in our Preparatory School, but whose means or circumstances prevent their even entering upon the regular work of the College.

The entire corps of Instructors of last year has been re-confirmed, with one additional Instructor in the department of Elocution, whose services, thus far, have proved satisfactory.

The other departments remain under the charge of the same Instructors as last year. A few words with especial reference to each of these will not be without interest to the Stockholders.

The present course of instruction in the Latin language is more complete and satisfactory than it has ever been before. Latin is now required in all classes of the Classical Course, after entering Class B, of the Preparatory School, until graduation. Our course in this department is now about as full as that required in any other American College. Several of our graduates have

been admitted to the Junior Class in Harvard, and not required to pursue the study of Latin further in order to graduate, showing that the amount of Latin read here is deemed sufficient elsewhere.

The study of the Greek language has never held exactly the place in our College Course that we could desire. It has been entirely optional, and the result has been that each year we have graduated, with the degree of Bachelor of Arts, students wholly unacquainted with one of the great classical languages of antiquity. During the present year, however, we have a far larger number of students pursuing the study of Greek, than ever before, and we may mention the peculiarly gratifying fact that, of the students of the Classical Department in the Senior Class, all but two, and in the Junior Class, all but one, have elected Greek.

The Modern Classical or Literary Course has been established to meet the wants of those who desire to give particular attention to the Modern Languages, and especially to English. While pursuing the French and German, English is carefully studied by means of representative authors, such as Chaucer, Spenser, Shakespeare, Macaulay, and others, and lectures are given upon the history of the language, as seen in the successive stages of its development. The aim of the Department is to make our own English Language the subject of the same critical examination as is bestowed, in the Classical Department, upon the Ancient Tongues. It is sought, by means of verbal criticism to give to the student a knowledge of the structure and correct use of our own language, and, by the special study of authors, to awaken in him an enthusiasm for our own noble literature.

The study of the French and German Languages is required during the Freshman and Sophomore years, and elective during the remaining two years of the course. They are, however, very generally elected by the Juniors and Seniors, and thus, practically, a course of four years is given in this department. The aim of the Instructors has been to give the students a thorough grammatical, reading and writing knowledge of these languages; and, next to this, a fair amount of conversational practice, that they may be able to understand, and speak with tolerable facility, the language of ordinary life. The endeavor is made to apportion fairly, for this double object, the time allowed for the study. In selecting the books read by the students, the practical end of studying the languages has been kept in view, and such books as

will best further this object have generally been chosen. At the same time, it has been considered that the students should be made acquainted with books of a higher character, and be introduced to some of the master-pieces of the French and German Literatures.

In the department of History, the course is, in general, the same as has been pursued for some years. With the younger students, drill in specific facts, and exercises calculated to give familiarity with names, places and dates important in history, occupy the principal part of the time; but as they advance in the course, more and more attention is given to analysis of character, to the causes of great movements, and the influence of events and of individuals upon the life of nations. It is the constant aim not to give undue prominence to political history; to regard battles and kings as important only so far as they have advanced or retarded the progress of a people in freedom, intelligence and morality, and especially to make the lessons of the past a powerful incentive to patriotism and virtue.

That the study of History may be a means of culture and not a mere exercise of the memory, time is always devoted to the customs, religion, art and literature of a nation; fine passages of prose or poetry commemorating historic events, are frequently presented in class, and an effort is made to awaken an interest in the historic allusions and legends of works of art. Students in the advanced classes, and advanced students in all classes, are encouraged to read standard works of history, by selecting for them such portions as illustrate their class work, or as are calculated to arouse and fix their attention. Compositions upon historic subjects are required throughout the course, and an increasing interest is shown in this part of the work, leading the students, in many cases, to prepare quite elaborate and creditable theses upon the subjects assigned.

The recent contribution, by a member of the Board, of a number of fine large photographs of ruins, temples, cathedrals, etc., has greatly increased the efficiency of this department. This gift will be remembered with gratitude by the students, not merely because it has kindled a deeper interest in the general subject, but because it has proved the means for specific and valuable information which many of them could hardly have otherwise obtained.

There has been but little change in the management of the Chemical Department during the past year. The instruction given

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in this study is divided into Theoretical and Practical. Theoretical instruction is given by illustrated lectures to Class A, of the Preparatory School, and in the College, to the Scientific Section of the Freshman Class, and the Classical Section of the Junior Class. The practical part of the instruction is required of the Scientific Section in the Sophomore year, and may be elected by the Classical students in the Junior and Senior Classes. The special course in Chemistry occupies the Junior and Senior years, and we shall this year graduate the first class in this course since the opening of the College. A considerable amount of new apparatus has been added during the past year, thus increasing the facilities for both class illustration and laboratory instruction. The number of students from other courses who elect advanced instruction in this study is increasing every year. This year, for the first time, the Laboratory has as many students as the present arrangements will accommodate. This, together with the character of the work done, gives us the feeling that the department is assuming, more than ever before, its due importance as a permanent and efficient department of the College.

In addition to the partial course in Medical Chemistry, mentioned last year, we are now trying the experiment of introducing a brief course of instruction in the Chemistry of substances and processes met with in every day life. This course was undertaken at the request of a few students, and is chiefly practical or laboratory instruction.

The greatest present need of the Chemical department is a commodious lecture room, as most of the lectures are now given in the Laboratory.

Physics is taught by illustrated lectures to Class A of the Preparatory School, and, in the College, to the entire Sophomore Class, and the Scientific Section of the Junior Class. It is intended this year to introduce a short course of instruction in physical manipulation, or work in the Physical Laboratory, in connection with the lectures to the Junior Class. The need of instruction in the construction and use of physical apparatus has long been felt, and it has been deferred mainly for want of means to procure the necessary apparatus for this purpose.

The department of Mechanics and Engineering is intended, as stated in our Catalogue, to furnish a good foundation in those studies which pertain to the practice of the Civil or the Mechani-

cal Engineer. Our experience has been that, not merely those students who expect to graduate, but those whose limited time and means prevent their taking more than a very brief course in this department, upon leaving us to learn trades, have found the studies here pursued particularly valuable. While a liberal amount of practical work is given, care is taken that the student understands the reasons for the work done. This is especially the case in Draughting, which is the written language of the engineer, where the student is frequently called upon to *make* the thing drawn, as a test of his knowledge of the subject. Unusual facilities are afforded for becoming familiar with the use of tools in the new machine shop which has been constructed in the south end of the Gymnasium. This shop measures about 24x40 feet, and contains a four horse power engine and boiler, arranged to drive the machinery, and to serve as practical examples, and for experimental purposes in the study of the steam engine, the engine being fitted for the application of an indicator for calculating its efficiency under varying conditions. The shop also contains a first-class screw-cutting engine lathe, an iron planer, a speed lathe, vises, forge and anvil and the minor tools necessary for a complete course of practical instruction in this department. It is the intention to construct here, from the students' own drawings and patterns, other tools to afford facilities, as the classes increase, for a greater number of working students; and to offer opportunities for students to construct tools and machinery for themselves, as well as models and apparatus for the department and the College. A proposed change in the arrangement of some of the studies in this department, will give, hereafter, much more opportunity for practical work in the field and shop, without detriment to the important theoretical studies.

The department of Pure Mathematics, continuing under the same care as from the opening of the College, is in a very satisfactory condition. The requirements for entering our Freshman Class are here quite equal to the average of the best colleges in the country, and the amount and quality of work done during the College course will bear a very favorable comparison with that done elsewhere. This important study is required of all students during the first two years after entering the College, and in the Junior year, of all scientific students, and of students in the Engineering Course in their Senior year. An elective course in the higher math.

ematics, and in theoretical and practical Astronomy, is also offered to the classical students in their Junior and Senior years.

The course on Natural History consists in teaching, through lectures and recitations, Systematic Zoology, with Comparative Anatomy and Physiology, supplemented by Mineralogy, Geology, and Botany. The lectures are accompanied by illustrations of natural specimens, models, drawings, and sketches on the blackboard. The Museum has been formed with the view of illustrating the Natural History course. It contains specimens fairly representing all classes of the Animal Kingdom, mainly American, and of a familiar character, which are considered best for the purposes of instruction. The collection contains most of the mammals of our vicinity; about 1000 birds from the neighboring counties; and collections of reptiles, amphibians and fishes, mainly also from the neighborhood. The other sub-kingdoms of mollusks, articulates, radiates and protozoons are well represented. Besides the Zoological department, the Museum contains upward of 2000 well selected minerals, rocks and fossils, well adapted for instruction in Mineralogy and Geology.

The Departments of Penmanship and Free-hand Drawing are under the same direction as last year, and continue to be satisfactory. These important studies are required of all our students in the Preparatory School; and both courses are open to those college students who desire to pursue them.

The Library now numbers 2824 volumes, 229 having been added during the present year. These have been chiefly by purchase, but among them is included a rare and valuable collection of Mathematical works, donated to the College by the will of our late beloved friend, and valued co-worker, Benjamin Hallowell, thus showing his continued interest in the welfare of the college of which he was one of the principal founders. The books purchased have been selected with especial reference to the needs of the several departments, and none for the purpose of filling up vacant shelves. The result is that, each year, our library is becoming more and more a practical working library of great and increasing value to the College.

Friends' Historical Library numbers 472 volumes, and has been slightly increased by donations during the past year.

Some lectures, by those not regularly engaged in giving instruction in the college, have been given as heretofore, but it is very

desirable that this means of improvement and general culture should be more freely offered to our students, and the establishment of a fund for this purpose, yielding at least \$500 a year, would be a very efficient addition to our means of instruction.

The excellent discipline of the College, and the harmonious relations between the Faculty and Students, continue to be a source of especial satisfaction to the Managers; and our confidence in the system of co-education is not only unabated, but strengthened by the added experience of the past year.

Now that the College is fully organized on a permanent basis, and the necessary buildings have been constructed, furnished and equipped, as must naturally be expected, the principal progress made has been in the direction of the further development of the courses of study, the enlargement of the Library, and the Museum of Natural History, additions to our apparatus, and in increasing the various facilities for giving instruction in the lectures and in the class-room. Yet the outside improvements have not been lost sight of during the past year. The new Station on the Railroad has been completed, old buildings have been removed, and the long delayed planting of trees upon the lawn has received proper attention. The farm also, has been much improved, and the crops raised have been sufficient to cover the expense thus incurred.

It has ever been the hope of the Managers that Swarthmore may more and more inculcate and exemplify those principles and that simplicity to which Friends bear testimony. Great sacrifices have been made to found and establish this Institution of learning. It has been, from the first, a labor of love and devotion. The effort was in harmony with—it was the outgrowth of—principles which it is the mission of our Religious Society to cherish and promulgate; namely, the devotion of our means, not to display, but to real good; and the exercise of a judicious care that we may provide liberally for all of those things which contribute to the moral and intellectual advancement of coming generations. Although the outward and material establishment of Swarthmore is well nigh finished; the great work undertaken by its far-sighted founders is scarcely begun; and, unless it is to be dwarfed and hindered of its hoped for perfection, others must continually take up and carry on the work with the same broad spirit of liberality in which it was conceived. A certain grade and class of schools are self-sustaining, but higher

education has ever been, and must continue to be the self-sacrificing contribution of the present to the future.

Appeals have been made in most of our Annual Reports for means to endow the College in various respects, thus to increase its usefulness, and make it available for a large number of students who cannot, at present, take advantage of the opportunities which it affords, in consequence of the expense incurred. Our Endowment fund, which is now capable of rendering assistance to a considerable number of students of limited means, has not been increased since our last report, while the income from this fund has materially diminished. There is another form of endowment to which the Managers desire to direct the attention of the Stockholders. This is the establishment of Scholarships, depending upon proficiency in the studies pursued, and to be obtained by competitive examination. \$10,000 properly invested would furnish one such scholarship, of \$150, for each of the four College classes, and in its moral effect, (giving that prominence to superior attainments which ought to be expected in such an institution as Swarthmore,) it would be of incalculable benefit in raising the standard of the College. It is hoped that this matter will claim the serious attention of Friends having means at their command, who are considering the best way in which they may advance the scholarship of the rising generation.

The subject of a reduction in the price of tuition has, at different times, claimed the attention of the Board. The receipts since the opening of the College have been considerably in excess of the regular running expenses, but the necessity of completing our outfit and adding improvements from time to time, has heretofore prevented action in this matter. The Board, at its meeting yesterday, authorized the Committee on Trusts, Endowments and Scholarships, at their discretion, to admit any students in the Preparatory School at the rate of Two hundred and Fifty Dollars per annum.

We cannot conclude this Report without referring to the loss which the College has sustained in the death of one of our Instructors, who was also one of our first graduates. At the time of the opening of the College, in 1869, Maria C. Pierce was entered as a member of our first Freshman Class. During her course of four years, as a student, she always maintained a high position, both as to character and scholarship, and she was graduated in 1873 with the first honors of her class. She was then immediately appointed

one of the Instructors in the College, and for three years filled this position with honor, and with ever increasing usefulness. In 1876 she was married to Samuel S. Green, our Professor of Physics, and accompanied her husband to Europe, a year's leave of absence having been granted him to pursue his studies further abroad. During her absence she was re-appointed as Instructor in the College, but just at the close of the year, on the day of our Annual Commencement, she died in Paris after a brief illness. Only those who have known her well, as a student and as an instructor, and have watched, with growing interest, her development from year to year, can fully appreciate the great loss which the College sustains in her early death.

TREASURER'S REPORT.

ROBERT BIDDLE, *Treasurer, in account with Swarthmore College.*

1876.	<i>DR.</i>	
12th mo. 4th.	To balance on hand,	\$10,658.01
1877.		
12th mo. 3d.	To amount received for Rents,	542.13
	“ Donations for Improvement of Grounds, Isabel Williams,	50.00
	“ Stationery and Meals taken at the College,	1,045.90
	“ Farm Products sold,	329.00
	“ On Tuition Acc't,	71,178.66
		<hr/>
		\$83,803.70

CR.

By amount of S. Willets' fund expended on Grounds,	1,922.30
paid on Construction Acc't,	2,500.00
“ Tuition Acc't,	74,888.87
“ for Returned Tuition,	977.51
“ Protested Check,	102.06
“ Interest,	6.52
Cash on hand S. Willets' Fund,	\$2,206.49
Cash on hand,	1,119 95
	<hr/>
	\$83,803.70

We have examined the above report of Robert Biddle, Treasurer, compared it with his vouchers, and find it correct.

JAMES V. WATSON,
EDWARD TAYLOR,

Auditors.

Report of the Treasurer of the Committee on Trusts, Endowments and Scholarships.

CLEMENT M. BIDDLE, *Treasurer, in account with Committee on Trusts, Endowments and Scholarships, of Swarthmore College.*

INVESTMENT ACCOUNT.

DR.

General Endowment Fund.					
Samuel J. Underhill,	-	-	-	-	\$5,000 00
Isaiah V. Williamson,	-	-	-	-	10,000.00
					<hr/> \$15,000.00
Educational Endowment Fund.					
Thomas H. Speakman,	-	-	-	-	100.00
Deborah F. Wharton,	-	-	-	-	5,000.00
Isaiah V. Williamson,	-	-	-	-	25,000.00
					<hr/> \$30,100.00
Special Scholarship Fund.					
Westbury Quarterly Meeting,	-	-	-	-	5,000.00
Perpetual Scholarship Fund.					
Anson Lapham,	-	-	-	-	10,000.00
Special Endowment Fund,	-	-	-	-	10,000.00
Bayard P. Blachly, Loan without Interest,	-	-	-	-	2,500.00
					<hr/> \$72,600.00

CR.

Ground Rents, I. V. W., Philadelphia,	-	-	-	-	10,000 00
Swarthmore College Due Bills,	-	-	-	-	16,100.00
Equitable Trust Co., Bonds,	-	-	-	-	6,500.00
Schuylkill Navigation Co., Bonds,	-	-	-	-	5,000.00
Property 727 Chestnut St , $\frac{1}{3}$ Interest,	-	-	-	-	25,000.00
Mortgage Account,	-	-	-	-	10,000.00
					<hr/> \$72,600.00

We have examined the account of Clement M. Biddle, Treasurer, compared it with the investments, and find it correct.

EDWARD TAYLOR,
JAMES V. WATSON,
Auditors.

Report of the Treasurer of the Committee on Trusts, Endowments and Scholarships—Continued.

INCOME ACCOUNT.

DR.

Balance on hand 12th mo. 4th, 1876.	-	-	-	-	-	-	233 91
General Endowment,	-	-	-	-	-	-	1,020.88
Educational Endowment,	-	-	-	-	-	-	1,841.53
Special Endowment,	-	-	-	-	-	-	700 00
Perpetual Scholarship,	-	-	-	-	-	-	700 00
Special Scholarship,	-	-	-	-	-	-	350 00
							<hr/>
							\$4,846.32

CR.

General Endowment,	-	-	-	-	-	-	15.00
Educational Endowment,	-	-	-	-	-	-	696.67
Special Endowment,	-	-	-	-	-	-	849.17
Perpetual Scholarship,	-	-	-	-	-	-	1,376.67
Special Scholarship,	-	-	-	-	-	-	338 50
Cash in Phila. Trust and Safe Deposit Co.,	-	-	-	-	-	-	1,520.31
							<hr/>
							\$4,846.32

For the year ending 12th mo. 3d, 1877.

CLEMENT M. BIDDLE,
Treasurer.

GRADUATES.

CLASS OF 1873.

SARAH H. ACTON, A. B.	Salem, N. J.
HELEN MAGILL, PH. D.	Cambridge, England.
ELIZABETH C. MILLER, A. B.	Swarthmore College.
ESTHER T. MOORE, A. B.	Swarthmore College.
*MARIA C. (PIERCE) GREEN, A.B.	Swarthmore College.
LOWNDES TAYLOR, A.B.	West Chester, Pa.

CLASS OF 1874.

ELLEN H. (EVANS) PRICE, A.B.	Philadelphia, Pa.
AMY W. (HALL) HICKMAN, A.B.	Street Road, Pa.
*ALFRED T. HAVILAND, B.S.	Millbrook, N. Y.
MARY (HIBBARD) THATCHER, A.B.	Darby, Pa.
HERMAN HOOPES, B.S.	Philadelphia, Pa.
FERRIS W. PRICE, A.B.	Philadelphia, Pa.
ELIZABETH S. WOOLSTON, A.B.	Philadelphia, Pa.

CLASS OF 1875.

JOHN B. BOOTH, A.B.	Swarthmore College.
HELEN T. COMLY, A.B.	Byberry, Pa.
FRANKLIN H. CORLIES, B.S.	Philadelphia, Pa.
HERBERT G. DOW, A.B.	Columbia College, New York City.
LIZZIE (HANES) TAYLOR, A.B.	Woodstown, N. J.
EDITH R. (HOOPER) ROBERTS, A.B.	Titusville, Pa.
BARTON HOOPES, JR., B.S.	Philadelphia, Pa.
OLIVER KEESE, JR., B.S.	Titusville, Pa.
J. REECE LEWIS, B.S.	Media, Pa.
HOWARD W. LIPPINCOTT, A.B.	Philadelphia, Pa.
MARTHA MCILVAIN, A.B.	Philadelphia, Pa.
JOHN K. RICHARDS, A.B.	Ironton, Ohio.
WILLIAM H. RIDGWAY, B.S.	Coatesville, Pa.

*Deceased.

CLASS OF 1876.

FRANK L. BASSETT, B.S.	Salem, N. J.
ARTHUR W. BRADLEY, A.B.	Philadelphia, Pa.
FRANCES LINTON, A.B.	West Chester, Pa.
ELIZABETH J. LONGSTRETH, A.B.	Sharon Hill, Pa.
JAMES T. MCCLURE, B.S.	Philadelphia, Pa.
EMMA McILVAIN, A.B.	Philadelphia, Pa.
EDWIN MITCHELL, JR., A.B.	Ecole de Médecine, Paris, France.
ISAAC G. SMEDLEY, B.S.	Willistown, Pa.
HERBERT W. SMYTH, A.B.	Harvard College, Cambridge, Mass.
MARY WILLETS, A.B.	Maiden Creek, Pa.
WILLIAM P. WORTH, B.S.	Coatesville, Pa.

CLASS OF 1877.

NORMAN B. CORSON, A.B.	Norristown, Pa.
EUDORA MAGILL, A.B.	Swarthmore, Pa.
JESSE R. NORTON, A.B.	Harvard College, Cambridge, Mass.
CARROLL R. WILLIAMS, A.B.	West Chester, Pa.
FLORENCE M. YEATMAN, A.B.	Fairville, Pa.
JOSEPH T. BUNTING, B.S.	Philadelphia, Pa.

WEEKLY PROGRAMME OF EXERCISES.

The letters indicate the class-room in which the recitation is held.

		SENIOR CLASSICAL.	SENIOR CHEMICAL.	SENIOR ENGINEERING.	JUNIOR CLASSICAL.	JUNIOR SCIENTIFIC.
SECOND-DAY.	8.15—9.00	Latin, F.	Laboratory Practice.		Mathematics, M.	Mathematics, M.
	9.00—9.45	Greek, N.	"	Mechanics, T.	Latin, F.	Desc. Geom. and Eng., T.
	10.15—11.00		"	Engineering, T.	Greek, N.	Mech. and Physics, R.
	11.00—11.45	French, F.	Organic Chem., Lab.	Drawing, T.	History, S.	Drawing, T.
	2.00—2.45	German, N.		"	German, N.	"
THIRD-DAY.	2.45—3.30			"	French, F.	"
	3.30—4.15					
	8.15—9.00	Latin, F.	Laboratory Practice.		Mathematics, M.	Mathematics, M.
	9.00—9.45	History, S.	"	Mechanics, T.	Latin, F.	Desc. Geom. and Eng., T.
	10.15—11.00	Elocution, Lyc.	"	Engineering, T.	Elocution, Lyc.	Mech. and Physics, R.
4TH DAY.	11.00—11.45	French, F.	"	Drawing, T.	German, N.	Drawing, T.
	2.00—2.45	German, N.	"	"	French, F.	"
	3.30—4.15		"	"		"
	8.15—9.00	Rhet. and Comp., S.		Field and Shop Practice.	Chemistry, Lab.	Field and Shop Practice.
	9.00—9.45			"	"	"
FIFTH-DAY.	10.15—11.45			"	Rhet. and Comp., S.	"
	8.15—9.00	Latin, F.	Laboratory Practice.		Mathematics, M.	Mathematics, M.
	9.00—9.45	Greek, N.	"	Mechanics, T.	Latin, F.	Desc. Geom. and Eng., T.
	10.15—11.00		"	Engineering, T.	Greek, N.	Mech. and Physics, R.
	11.00—11.45	French, F.	Organic Chem., Lab.	Drawing, T.	History, S.	Drawing, T.
SIXTH-DAY.	2.00—2.45			"	French, F.	"
	2.45—3.30			"		"
	3.30—4.15					"
	8.15—9.00	Latin, F.	Laboratory Practice.		Mathematics, M.	Mathematics, M.
	9.00—9.45	History, S.	"	Mechanics, T.	Latin, F.	Desc. Geom. and Eng., T.
SEVENTH-DAY.	10.15—11.00	Greek, N.	"	Engineering, T.	Greek, N.	Mech. and Physics, R.
	11.00—11.45	French, F.	"	Drawing, T.	German, N.	Drawing, T.
	2.00—2.45		"	"	French, F.	"
	2.45—3.30	German, N.	"	"		"
	3.30—4.15		"	"		"
8TH DAY.	8.15—9.00	Ment. and Mor. Phil., F.	Ment. and Mor. Phil., F.	Ment. and Mor. Phil., F.	Political Economy, Lyc.	Political Economy, Lyc.
	9.00—10.15	Eng. Lit., Lyc.			Eng. Lit., Lyc.	

WEEKLY PROGRAMME OF EXERCISES.

The letters indicate the class-room in which the recitation is held.

SECOND-DAY.	SOPHOMORE CLASSICAL.			SOPHOMORE SCIENTIFIC.			FRESHMAN CLASSICAL.			FRESHMAN SCIENTIFIC.			A, CLASSICAL.		
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
THIRD-DAY.	Greek, N.	Latin, I.	German, N.	Rhet. and Comp., S. R.	Mathematics, M.	Old English, Sen. R.	Elocution, Lyc.	Latin, I.	French, F.	Physics and Botany, Mus.	History, S.	Greek, N.	German, N.	Nat. History, Mus.	Mathematics, M.
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
FOURTH-DAY.	Greek, N.	Latin, I.	German, N.	Rhet. and Comp., S. R.	Mathematics, M.	Old English, Sen. R.	Elocution, Lyc.	Latin, I.	French, F.	Physics and Botany, Mus.	History, S.	Greek, N.	German, N.	Nat. History, Mus.	Mathematics, M.
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
FIFTH-DAY.	Greek, N.	Latin, I.	German, N.	Rhet. and Comp., S. R.	Mathematics, M.	Old English, Sen. R.	Elocution, Lyc.	Latin, I.	French, F.	Physics and Botany, Mus.	History, S.	Greek, N.	German, N.	Nat. History, Mus.	Mathematics, M.
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
SIXTH-DAY.	Greek, N.	Latin, I.	German, N.	Rhet. and Comp., S. R.	Mathematics, M.	Old English, Sen. R.	Elocution, Lyc.	Latin, I.	French, F.	Physics and Botany, Mus.	History, S.	Greek, N.	German, N.	Nat. History, Mus.	Mathematics, M.
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
SEVENTH-DAY.	Greek, N.	Latin, I.	German, N.	Rhet. and Comp., S. R.	Mathematics, M.	Old English, Sen. R.	Elocution, Lyc.	Latin, I.	French, F.	Physics and Botany, Mus.	History, S.	Greek, N.	German, N.	Nat. History, Mus.	Mathematics, M.
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30
	8.15—9.00	9.00—9.45	9.45—10.15	10.15—11.00	11.00—11.45	11.45—12.00	12.00—1.00	1.00—1.45	1.45—2.00	2.00—2.45	2.45—3.30	3.30—4.15	4.15—5.00	5.00—5.45	5.45—6.30

WEEKLY PROGRAMME OF EXERCISES.

The letters indicate the class-room in which the recitation is held.

	A, SCIENTIFIC.	B, CLASSICAL.	B, SCIENTIFIC.	C, FIRST.	C, SECOND.
8.15—9.00	Writing & Book-Keep., D.				
9.00—9.45	French, L.	Latin, I. Arithmetic, E.	Spelling, K. Arithmetic, E. French, G.	French, H.	French, L. History, K. Geography, D.
10.15—11.00	Engl. Grammar, E.	History, Lyc.	Engl. Grammar, K.	Engl. Grammar, K.	Geography, D.
11.00—11.45	Mathematics, M.	Phys. Geog., Mus.	Phys. Geog., Mus.	Arithmetic, E.	Engl. Grammar, L. Arithmetic, E.
2.00—2.45	History, Lyc.			Spelling, K.	Writing, D.
2.45—3.30					
3.30—4.15					
8.15—9.00	Physiol. & Uran., Mus.	Writing, D.	Arithmetic, E.	Elocution, Lyc.	Elocution, Lyc.
9.00—9.45	Drawing, O.	Latin, I.	French, G.	History, K.	
10.15—11.00	French, L.	Arithmetic, E.	Engl. Grammar, K.		Geography, D.
11.00—11.45	Engl. Grammar, E.	French, G.	Elocution, Lyc.	Geography, D.	Drawing, O.
2.00—2.45	Elocution, Lyc.	Elocution, Lyc.	Writing, D.	Arithmetic, E.	Arithmetic, E.
2.45—3.30	History, Lyc.	Spelling, K.		Writing, D.	Spelling, K.
3.30—4.15	Mathematics, M.				
8.15—9.00	Rhet. & Comp., G.	Drawing, O.	Composition, K.	Latin, I.	Latin, I.
9.00—9.45	French (bg.), L.	French, G.	Drawing, O.	Composition, I.	Drawing, O.
10.15—11.45	Natural History, Mus.	Natural History, Mus.	Natural History, Mus.	French, G.	French, G.
8.15—9.00	Writing & Book-Keep., D.			Engl. Grammar, K.	Geography, D.
9.00—9.45	Spelling, G.	Latin, I.	Arithmetic, E.	Geography, D.	Engl. Grammar, L.
10.15—11.00	Engl. Grammar, E.	Drawing, O.	Engl. Grammar, K.	Arithmetic, E.	Arithmetic, E.
11.00—11.45	Drawing, O.	History, Lyc.	Phys. Geog., Mus.	Spelling, K.	Writing, D.
2.00—2.45	Drawing, O.	Phys. Geog., Mus.			
2.45—3.30	Mathematics, M.	French, G.			
3.30—4.15					
8.15—9.00	Physiol. & Uran., Mus.				
9.00—9.45	French, L.	Latin, I.	Spelling, K.	Elocution, Lyc.	Elocution, Lyc.
10.15—11.00	Engl. Grammar, E.	Writing, D.	Arithmetic, E.	History, K.	Composition, G.
11.00—11.45	Elocution, Study Room.	History, Lyc.	Engl. Grammar, K.	Engl. Grammar, K.	
2.00—2.45	History, Lyc.	Spelling, K.	History, L.	Arithmetic, E.	Engl. Grammar, L.
2.45—3.30	Mathematics, M.	Composition, G.	Writing, D.	Writing, D.	Arithmetic, E.
3.30—4.15		Arithmetic, E.		Latin, I.	Spelling, K.
8.15—9.00	French (bg.), L.			Elocution, K.	Elocution, K.
9.00—10.15	Lectures on Chem. & Phys.	Elocution, Mus.			

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SAMUEL WILLETS, 303 Pearl Street, N. Y.

JOSEPH WHARTON, P. O. Box 2786, Philadelphia.

DANIEL UNDERHILL, Jericho, L. I.

ISAAC H. CLOTHIER, 801 Market Street, Philadelphia.

CLEMENT M. BIDDLE, Secretary and Treasurer,

511 Commerce Street, Philadelphia.

